SmartCAM Advanced Wire EDM™

March 1995 **Version 7.0 for UNIX®** NTS1001153

Release Notes

These release notes provide information on new product features and known limitations that are specific to this version of SmartCAM Advanced Wire EDM. They also provide infor-mation not included in other documents or in online Help.

What's New

Below are highlights of the features in Advanced Wire EDM version 7.0. See Contents for more information.

- SmartCAM Program Group

  The SmartCAM Program group replaces the old menu window. Select your SmartCAM application or utility by selecting its icon.

- Dynamic View

  This new viewing tool enables you to easily rotate your model view to any orientation.

- New File Handling Routines

  Creating, saving, and opening model files is now faster and easier.

- New Online Help System

  Help offers many new features, including a search capability.

- Quick View Status

  View the current insert properties without leaving the open control panel.

- Customization Manual

  A new manual provides information about customizing the appearance of your SmartCAM window.

- Icon Bar

  You can customize the new icon bar to give quick access to your most commonly used functions.

- AutoCAD® R13 DXF Support

  A new utility strips incompatible entities out of your R13 DXF files.

Documentation

This version of SmartCAM Advanced Wire EDM includes the following documents:

Advanced Wire EDM User Manual and *Getting Started* - These manuals were not updated for this version. New features and changes in operation are documented in these release notes and in online Help.

Installation Guide - A new manual, with a new design, provides the information you need to install your new software.

Code Generation Guide - A new manual incorporates all SmartCAM code generation information into one manual.

Customization Manual - A new manual provides information on how to customize your SmartCAM window. It also provides information on recording, editing and using macros, as well as a complete macro reference for all SmartCAM macros.

Edit Plus® User Guide - A new manual offers instructions for using the Edit Plus text editing program.

SmartCAM® CAM Connections® - Instructions for using DXF, IGES and CAMCAD Standard® CAM Connection utilities are included in this new manual.

Online Help - The online Help system offers up-to-date information on all features. You can locate information by using the Help Contents, context-sensitive Help, or the search function.

Known Limitations

Glue Stop

The Undo button on the Glue Stop control panel performs only once. If you select Undo multiple times, some elements may not be deleted. To enable multiple Undos in the Glue Stop panel, run the macro `variable.mcl` before using Glue Stop. To avoid running the macro each time you use SmartCAM, add the macro filename to the command line that starts SmartCAM.

1. From the SmartCAM Program Group, hold down the shift key on the keyboard and click once on the Advanced Wire EDM icon to highlight it.
2. Select **Configure—Edit Icon** from the SmartCAM Program Group menu to open the Edit a Program Group Item dialog box.

Contents

What's New	1
Documentation	1
Known Limitations	1
User Manual	2
New Display Elements	2
Using Online Help	2
Using the Icon Bar	2
Changes in Menus	3
Creating, Opening, and Saving Files	3
Printing a Process Model	4
Using Dynamic View	4
Viewing Insert Status	4
AutoCAD R13 DXF Files	4
About Job Plan	4
Using Other SmartCAM Products	4
Code Generation	4
New Terminology	5

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3. Position the cursor at the end of the information in the Command Line input field and type the following:

   `-m/sysmcl/variable.mcl`

Opening Model Files

Advanced Wire EDM requires that the job file reside in the same directory as the model with which it is associated.

When you open a model file or text file associated with a `.jsf` file that SmartCAM cannot find, some menu items may be dimmed, including Job File. If this occurs, use the Windows File Manager or DOS copy command to copy the `.jsf` into the same directory as the model file.

Dimension Text

If you enter the name of a file that does not exist into the Dimensions—Parameters panel and use Keep Defaults to save the settings, SmartCAM will crash the next time you try to open a file that uses a text file. The same problem will occur if you move or delete an `.sh2` file.

Should this occur, use Edit Plus or other text editor to open the `awdflt.su` file and remove the name of the missing file from the list of defaults.

User Manual

Edit—Geo Edit—Lead In/Out

The description of the Use Point on/off switch on this panel is incorrect in the reference manual. Following is an accurate description of the switch.

Turn on the switch to select the lead-in/lead-out location by providing Ref Point coordinates. Turn off the switch to select the location by using Angle, Length, Radius, and Perp. Distance values. Radius is used with Ref Point if the lead moves use both a line and an arc.

New Display Elements

If you used earlier versions of SmartCAM Advanced Wire EDM, you will find that many of the familiar screen display elements are still there. The menus, workbench, toolboxes, and tools remain an important part of the SmartCAM window.

You will also find many new elements, such as icons and one-line descriptions of each SmartCAM menu selection and tool.

The pictures of control panels, dialog boxes, and other screen display elements that are in the *User Manual* and *Getting Started with Wire EDM* manual may look different than the actual screen display. For example, dialog box titles are in a different location. However, the differences are cosmetic only. The buttons, input fields, and other controls on the panels still perform the same functions.

Using Online Help

You can access the Help system at any time to find information about the features of SmartCAM.

To access Help, select **Help** from the menu and then **Contents** (or another option), or press **F1** to open Help Contents directly.

To use context-sensitive Help, press **SHIFT F1** to display the pointer as a floating question mark (similar to the Help Context icon). Position the cursor over any open dialog box or control panel, or any menu bar item, icon, or open toolbox and click to display the Help topic for that item.

Help Context

The Help system includes a search feature and allows you to place bookmarks or your own annotations for later reference.

To learn more about using online Help, select **Help—Using Help** from the SmartCAM menu. You can also add the Help Context icon to your icon bar.

Using the Icon Bar

The icon bar provides direct access to a variety of features. To initiate a task, place the pointer on the appropriate icon and click the left mouse button. The read-out line below the graphic view provides a description of each icon as you point to it.

SmartCAM comes with several icon bars. You can also create a custom icon bar that includes the icons for the modeling tools that you use most often (see Figure 1).

Adding Icons

The icons in these Release Notes are Predefined Buttons that are listed in the Add Bar Button dialog box. To add them to your icon bar, open the dialog box and enter the icon name in the Button Name field.

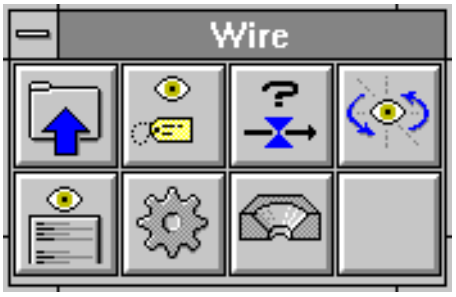

Figure 1
Use Utility—Icon Bar—Button Add to create a custom icon bar.

Following is a brief description of how to use the icon bar functions. For detailed information, refer to the online Help system and to the *Customization Manual*.

Changing the Icon Bar

Choose

To use a different icon bar select **Utility—Icon Bar—Choose** to open the Choose Icon Bar dialog box. Enter the name of the icon bar, or use File Select to locate and load the desired icon bar.

+ Icon bar files are located in the `icon` subdirectory of the SmartCAM program directory.

Configuring the Icon Bar

Configure

To set the position for the icon bar display or to turn the display on and off, select **Utility—Icon Bar—Configure**. Set the Visible status and Position for the bar.

Saving an Icon Bar

Bar Save

To save changes that you make to an icon bar, select **Utility—Icon Bar—Save**. Save is not available unless you have made changes.

Adding Icon Buttons

Button Add

To add buttons to an icon bar, select **Utility—Icon Bar—Button Add** to open the Add Bar Button dialog box. Select the button to add from the list of predefined buttons.

To add a button for a macro, click on the Macro button to open the Add Macro Bar Button. Enter the requested information.

Deleting Icon Buttons

To delete a button from an icon bar, press the SHIFT key and use the left mouse button to select the button from the icon bar to open the Edit Bar Button dialog box.

Changes in Menus

Although most menus remain the same, some menu selections have been moved or renamed to be more compatible with other software.

Changes include:

- Print is now in the File menu rather than the Utility Menu.
- Version and copyright information is now found in the About Help menu, rather than Version/Mem under the Utility menu.
- The order of items in the File, View, and Utility menus has been changed to provide more efficient access to the menu commands.
- In the File menu Read has been renamed to Open, Leave is now Exit, and Keep_Deflt is now Keep Defaults.

Creating, Opening, and Saving Files

The File menu includes some new options, and the names of other options have changed from those described in the *User Manual*.

Below is a brief description of how to use some of the File menu options. For detailed information, refer to the online Help system.

Creating a New Model File

New

To create a new model file, select **File—New** to open the New dialog box. Enter the name of the job plan file to assign, or use the File Select function to find and select the job file.

Opening a Model File

Open

The last four model files that you used are listed on the File menu. To open one of those files, simply select it from the menu.

To open another model, select **File—Open** to display the Open dialog box. Enter the name of the file to open or use the File Select function to find and select the model file.

Saving a Model File

Save

To save changes to a model file, select **File—Save**. SmartCAM saves the file with the same filename.

Save As

To save a model file with a different filename, select **File—Save As** to display the Save As dialog box. Enter the new file name, or use the File Select function to select and overwrite an existing file.

Printing a Process Model

The Print function has been moved from the Utility menu (as describe in the *User Manual*) to the File menu.

Data

Before you can print the graphic view or the data that comprises the model, set up the printer in the `smartcam.ini` file. For information about editing `.ini` files, refer to the *SmartCAM Customization Manual*.

To print, select **File—Print**, and then select the appropriate option from the Print submenu.

For more information about the print functions, refer to the online Help system.

Using Dynamic View

Dynamic View enables you to rotate the view of your model to any desired orientation. To use Dynamic View, select **View—Dynamic View**.

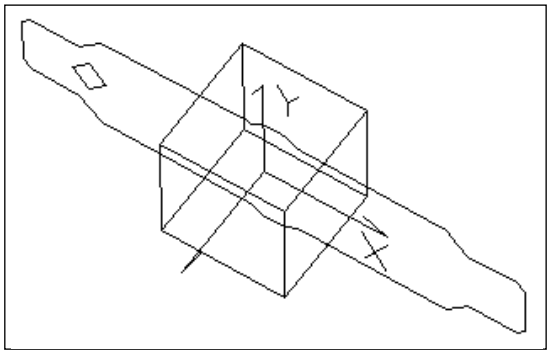

Figure 2
Use Dynamic View to orient the view of your model.

You can rotate, spin, or pan the view, or zoom in and out on the view. To save the view, use View—Name View to assign a name to it.

To change the settings for Dynamic View, select **View—Dynamic View** and then select the Configure button from the Dynamic View dialog box to open the Configure Dynamic View dialog box.

For more information about Dynamic View, refer to the online Help system.

Viewing Insert Status

Insert Status

The Status function enables you to view the current insert properties without leaving the open control panel. To use Status, select **Utility—Status** or Press **F9** to display the Quick View Status dialog box.

AutoCAD R13 DXF Files

The AutoCAD R13 DXF file format was changed, without prior notification, between the pre-release version and the released version of R13. As a result the released version of the AutoCAD R13 DXF is incompatible with the current version of the SmartCAM DXF CAM Connection.

As an interim solution, we are providing an R13 strip utility, which you can access from an icon in the SmartCAM program group. Instructions for using the utility are in the file `r13strip.txt`, which is in the SmartCAM program directory.

About Job Plan

You can now open Job Plan from an icon in the SmartCAM Program Group. Documentation for Job Plan is online. To open the Job Plan document, select its icon from the SmartCAM Program Group.

Using Other SmartCAM Products

You may be using one of the new SmartCAM milling products (Production Milling version 8, Advanced 3-D Machining version 4, or FreeForm Machining). If so, note that the process model files for those products are in the `.pm4` format, whereas those for Advanced Wire EDM are in the `.sh3` format.

Although you can open your `.sh3` files in the milling products and save them in the `.pm4` format, you will lose the tooling information if you attempt to transfer them back into the `.sh3` format.

Code Generation

Inch to Metric Conversion

Code generation for incremental machines that also require a conversion from inch to metric (for example, Agie™ Wire EDM machines), may exhibit what appear to be rounding errors. These are not, in fact, errors; rather, they are the result of

positions sent to the code generator that the machine cannot actually position to.

For example, if X = 1.0125 and the Agie can position only to 1.013, X001013 is output. If the next move is once again to position to X = 1.0125, the actual move required is X - 0.0005, which is rounded and output as X - 000001. The effect is noncumulative, since SmartCAM tracks both the actual position and the output position. Total error over any number of moves should never exceed 0.001 mm.

Machine Define Question 120

If you create subprograms that code tool center rather than part profile (Machine Define question 120) and contain closed profiles, make sure that the last element of the first profile is tangent to the first element of the second profile.

Zero Length Moves

Agie Wire EDM machines cannot correctly process QR angles (output in 4-axis) if there is not a move in either X or Y, or both, for it to calculate the vector required for QR positioning.

QR values displayed by the SmartCAM Element Data function may differ from those output in code. This is because Q and R are calculated from a significantly more accurate location in SmartCAM.

To compensate for this problem, an error check has been built into the code generation process to warn of possible zero-length moves in the XY plane when in 4-axis mode. The following question in the Machine Define (`.smf`) file controls the error checking:

267. Zero length moves in 4 axis events:

Choices:

<0> Zero length moves are permitted.
<1> Zero length moves are not permitted.

Set the specification to <1> to check for this occurrence during code generation. When the condition is encountered SmartCAM displays the following error message:

```
Likely output of Zero length
moves detected.
```

Select **OK** to continue the coding process or **Cancel** to stop it.

New Terminology

Some SmartCAM manuals, such as the *Installation Guide* and the *Customization Manual*, are used for all SmartCAM products. Consequently, they contain information about features that are not applicable to Advanced Wire EDM.

As you look through these manuals, you may encounter some unfamiliar terms: Job Operations Setup, process model (`.pm4`) files, job operations (`.jof`) files, steps, and operations are all terms associated with the new Job Operations Setup capability that already appears in some of our products and will appear in the others in the future. Ignore these references for now—and watch for additional features in future releases of Advanced Wire EDM.